

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: lve1@inel.gov (Larry V East)  
Subject: [6661] 10 Meters  
Message-ID: <2.2.16.19961218171854.1c37f91a@eloi>

>> Ten is quiet here in Maine. No one heard no one worked.

>>

>>From K4CGY in Maryland.

>Joel and MANY others write about 10 being very quiet during the contest.

>Did you all have the antenna's connected? I thought that 10 was good-not

>great--but good. It was quite a bit better than last year but did have some  
>quiet times.

It appears that 10 was open mostly at lower latitudes -- say below 40 degrees north or so. There were a couple of openings to CA (hard AZ once) and the southeast (mostly FL) from here in Idaho, but signals were generally weak. I also heard a bunch of LU's on Sunday, but again pretty weak (couldn't work any with my mighty 5W). So, it's not so much a matter of whether or not your antenna was connected, but more a matter of where you are located.

72, Larry W1HUE/7

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: "Brian.Buydens@usask.ca" <buydens@duke.usask.ca>  
Subject: [6635] 38 special  
Message-ID: <Pine.OSF.3.95.961217224926.10705A-1000000@duke.usask.ca>

I just looked at the 38 special schematic. It looks really interesting. Considering the improvements over the 40-9er I just can't wait till next year when the improvements to the 38 special come out ;-)

Speaking of improvements I notice a trend to highe bands and lower power i.e. 40m 9v, 30m 8v. Therefore I propose the next radio be 20m 6v. If it could run at 5W it would be even better since that is a "full load" for QRP. Thus the slogan could be "Get loaded with a 26!" (Sorry I couldn't resist.)

Anyway good work. BTW how hard would it be to add a VFO to the 38 special?

Brian.

+-----+  
| Brian Buydens, Computing Services, University of Saskatchewan |

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| email: Brian.Buydens@usask.ca |
| VE5RDV |
+-----+
| A Thought for Christmas: |
| The only decent thing to do behind someone's back is pat it! |
+-----+
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From owner-qrp-l@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: "Craig O. Smith" <CSMITH@cmsuvmc.cmu.edu>  
Subject: [6651] 38 special document  
Message-ID: <961218.093903.CST.CSMITH@cmsuvmc.cmu.edu>

Good morning to all!

Could someone please send me the document from N4SO titled 38spec.txt?  
I would appreciate it. TIA.

73/Craig/KB0VRS - Warrensburg, Mo.

From owner-qrp-l@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: lve1@inel.gov (Larry V East)  
Subject: [6660] 5W RF, 150W Audio?  
Message-ID: <2.2.16.19961218171854.346f1a60@eloi>

>  
>I have it plugged into my Sierra, and can now hear CW through my 150W stereo  
>and Bose speakers -- not bad! I can now hear CW from 150ft away if I 'crank  
>it up' :-))  
>

Holy cow, Bob! Hang an antenna on that thing and you can become a "lowfer"!

From owner-qrp-l@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: Christmas Card Sender <kf2ph@bnl.gov>  
Subject: [6681] A Christmas Card for You!  
Message-ID: <m0vaTxS-0007aGC@server.branch.com>

Nick Franco (kf2ph@bnl.gov) has sent you (QRP-L Family ) a WWW Christmas Card!  
To pick it up, use a web browser to access <http://branch.com/christmas/>.  
You will need to enter the email address qrp-l@lehigh.edu

and the 6 character code RLODQN.

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: scicior@uswest.com (Steve Ciciora)  
Subject: [6677] Chicago electronic places to visit  
Message-ID: <9612181951.AA20179@sp5-316.uswc.uswest.com>

While not strictly QRP related, I've seen similar posts with positive results. I'm going to be in Chicago over the Holiday season, and any suggestions on electronics/ham radio related places to visit? I know about American Science Center on Northwest Highway and Nagel, but that's it. Thanks for your time and Happy Holidays,  
Steven Ciciora KB0PJF

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: ed.welch@cheaha.com (ED WELCH)  
Subject: [6641] FB es Tnx "38 Special" Crew  
Message-ID: <8CE54ED.0004000F0A.uuout@cheaha.com>

My 2-cents worth. :)

-> Whew! What a relief. The "38 Special" design is done.

FB - Congrats, Dave, Ori, Jim, and Doug (in no particular order :) on the "near" completion of the "38 Special"! The anxiously awaiting benefactors from your efforts have yet to build a kit....so ya'll ain't off the hook yet! :) Plenty of comments, questions, etc., to come!

-> Hundreds of hours have gone into this project by people who are  
-> doing it for the love of the hobby, because it is fun and because  
-> they like to help others enjoy the hobby.

The true meaning of Ham Radio. Very good, Doug.

Tnx for the time and effort ya'll have put into this project. From a rank newcomer to Ham Radio I appreciate what ya'll have done in the past, are doing now, and (hopefully ;) will do in the future.

You've sparked my curiosity about the art/building aspect of Ham Radio.

You've put together a kit that would have been \*way\* out of my league to design. When I build this kit...I will learn....and I will understand more. In the end I will have a fine rig, a sense of self-accomplishment and pride, a tad more self-confidence, increased

knowledge, and several more small treasures. I'll not soon forget the feeling I got when W5HKW in Vicksburgh, MS answered the first CQ call I made on my freshly built Norcal 40a.....dang good feeling!....Looking forward to it again!

FB es TNX

72/73

Ed Welch KF4KRV

QRP-L #873

Luverne, Alabama

Crenshaw County - Grid EM61

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+-----+  
-----+ Norcal 40a es Straight Key es Wire-wrapped Trees +-----  
+-----+
```

> Isn't "time" a 4-letter word? <

From owner-qrp-l@Lehigh.EDU Wed Dec 18 18:00:43 1996

From: Dave Siegrist d225-6493 18-Dec-1996 0821 <siegrist@rock.ENET.dec.com>

Subject: [6649] first fox!

Message-ID: <9612181318.AA26248@enet-gw.pa.dec.com>

Finally got a fox last night. Started listening right at 9:00 local time, and all I could hear was CM3II pounding in, with a buzz down in the noise. Then KE4YH came up to s5 here in Mass, and I listened to him call for awhile. Around 11:15 local the buzz went away, and one signal came up to an s7... WOCH. I was so surprised. Worked him easily. Continued listening until midnite. Great signal the whole time.

Went up to tell the family. They are so used to my getting excited about goofy radio stuff, that they no longer look at me in amazement. Oh well.

Thanks for the effort Dave.

dave /nt1u

From owner-qrp-l@Lehigh.EDU Wed Dec 18 18:00:43 1996

From: pmk@juno.com  
Subject: [6642] Fox found in Fl. TNX Dave...  
Message-ID: <19961218.055236.4735.3.PMK@juno.com>

The first night I had not been doing something on the bench and thought I would use something I had built.

I fired up the trusty old Classic and figured I would work someone on 40mtrs. Well was looking around and tried to work AA4MY around 40 but he could not hear me I reckon. I heard him talking about the Fox so I stepped down a few kc and there he was in that pretty red coat. First bullet and downed him and was only running a 1/5th QRP gallon (1 watt).

I had never tried to chase the Fox as the QRN is terrible here. I put a loop up last weekend and that seemed to quiet it enough. He was weak at first but called him back to give him my name for his log and he was booming. Easy 599 all the way.

Thanks Dave and am looking forward to many more (HO HO).

73 de Patrick KD4OBQ

ar

From owner-qrp-l@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: Bob Hightower <ki7mn@dancris.com>  
Subject: [6631] FOX!  
Message-ID: <199612180351.UAA10339@dancris.com>

Gotcha! You were a very strong signal here in AZ when you started, so I just thought I'd lay back and let the crowd fight it out for awhile. Came back in the room about 0330Z, and there you were, still with a pile-up.

Then you disappeared! Uh-oh, did I miscalculate? Nope, you came right back up, as strong as before, but I decided not to wait any longer. Managed to get your attention at about 0344. Another one in the bag.

Great job, Dave. Had me worried for a while.

73,

Bob, KI7MN Chandler, AZ ScQRPion QRP-L #271, NorCal #1228, CQC #274, QRP ARCI #8918, AK QRP #30, not in any order of importance.

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: Joe Gervais <vole@primenet.com>  
Subject: [6636] FOX: 'Tis the season to stress...  
Message-ID: <199612180521.WAA19210@primenet.com>

Season's Howdys,

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: Joe Gervais <vole@primenet.com>  
Subject: [6640] FOX: 'Tis the season to stress...  
Message-ID: <199612180539.WAA21322@primenet.com>

(Hmmm... Let's try this again...)

Season's Howdys to All,

So with two stressful, last-minute, down-to-the-wire  
Fox catches behind me, I've settled into a peaceful  
night. Satisfied my craving for sourkraut on rye,  
scanned the latest QST on the couch, read the kids  
two bedtime stories. Ahhhhhh. Relaxed. Calm. Wife's  
off the phone, think I'll check email. Hey, a note  
from fellow ScQRPion Floyd (NQ7X). Wonder what he's  
up to... "Joe, where are you? Did you forget about  
the Fox tonight?"

AAAAIIIEEEEEEE!!!!!!

Run to the bedroom, fire up the rig. Static. A few  
stray signals. Noooooo!!!!!! What time was he on 'til?  
20 minutes left. He's out there \*somewhere\*. Band is  
flat. Hear a 30wpm sig ... nearly 599 ... running 2KW.  
Oh @\*#/\$@\$\*! This ain't good. Never give up. Never never  
give up. Keep searching. 15 minutes left. 10 minutes.  
Blood pressure rising. Temples beginning to throb.  
9 minutes. Then a whisper. Less than a whisper. Did  
I hear "FOX"? Not anymore, 'cuz a 599 6-land call comes  
up and clobbers him. :-\ Try again. "QRZ?" Fire off  
my call. Hope. Mutter. Sweat. He's got me! His sig's  
getting stronger! Wahoo!!! Coast in with 6 minutes to  
spare. Dave peaks at 579, then slides back into the  
QRN before he signs off.

Hi guys! Here I am again, you wonderful group of e-mail Elmers, with another question. I use my RS Freq Counter (cat. no. 22-305) to check the freq after each QSO with my NorCal 40A. Rather than disconnect the antenna and hook up the Freq Counter, would it be possible to get one of the Radio Shack coas "T" fittings and just connect both the antenna and the Freq Counter and get my readings that way? Is this a brilliant and labor-saving idea or is there a good reason why I should not try it? Thank you--you will never know how much

all of you are appreciated and needed in the art. Keep up the great work!  
QRPDave Dave Smith KE6PUF

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: Bruce Robertson <brucerob@chass.utoronto.ca>  
Subject: [6639] FS: forty-9er kit  
Message-ID: <Pine.SGI.3.95.961218003240.17329A-1000000@chass.utoronto.ca>

For Sale: one original forty-9er kit, including manual, the later revision B board, and parts kit still unopened.  
Price: \$25 (U.S.), which I think was the original price with shipping. Otherwise whatever that price was. I will pay to airmail anywhere in North America.

Bonus: I will throw in an Altoids box for free.

Reason: I can't see myself building this thing with chapter 2 of the dissertation still hanging over my head. (But I just might make time for the miniR2 kit. 144 MHz or 29 MHz?)

72, VE3UWL

Bruce G. Robertson Dept. of Classics, U. of T.

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: Monte Stark <ku7y@sage.dri.edu>  
Subject: [6667] FT-101-EE  
Message-ID: <Pine.SUN.3.90.961218094841.1292A-1000000@vortex.sage.dri.edu>

Hi,

I have for sale a clean FT-101-EE, with external VFO and matching speaker. I used this for about 5 years as my main qrp radio.

It will receive WWV on 10 mhz and can be modified to TX on 30m. There is an article included showing one way to do that.

I am not using the radio now and it still has a lot of life left in it! Someone might as well get the use out of it.

I don't remember the specs, but it has a pi network in it that will handle a fairly wide range of antenna impeadences.



FT-101-EE160, 80, 40, 20, 15, 11 and 10 meters  
12 VDC mobile power cable  
mic  
Original manual  
Some Fox Tango news letters \$295

FV-101 Matching external VFO \$135

Matching external speaker \$55

-----  
\$485

\*\*\*\*\*Christmas Special\*\*\*\*\*

Whole package is \$385 + shipping/COD

E-mail via ku7y@sage.dri.edu

OBQRP:

Got the fox last night.....he was weak early on and there was a lot of stations calling. Tried a little but thought I'd wait till later.

Then I couldn't find him or the pile-up for awhile! Then, I thought I heard something move, way down there under the noise.....yep, that was him, jumping up just enough to teas me.....then back down under the noise.....but soon I threw out my call, then again, silence.... then threw my call again.....wait....what's that I hear???....ku7?... I knew than that I had him.....a few repeats and bingo, had another one in the bag!

Soon after, he went back under the noise, never to be heard again by me.....made me wonder if maybe one of those Texcans might have pulled him clear out of the field! Never know what those guys might do.....

Then, way too late, I found out there had been a N/T fox on also! Darn, I might have found him too.... :-(

Has anyone else stopped to think that Chucks little fox hunts have done more to increase QRP operations than anything else ever has??

Congratulations Chuck!

cul,

73, Ron,

.....KU7Y.....ARCI #8829.....Monte "Ron" Stark.....  
....ku7y@sage.dri.edu.....Washoe Lake, Nevada....  
....QRP-L #17...ARS #49...NorCal #330.....NRA LIFE.....

From owner-qrp-l@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: kd7s@psnw.com (Bill Jones)  
Subject: [6633] High Performance, Small Loop Antennas (very long)  
Message-ID: <199612180434.UAA24352@sierra.psnw.com>

The following is a lengthy description of small diameter, transmitting loop antennas. It is being posted (with permission from Chuck) in response to several requests. If you have no interest in this subject, please delete this message now.

=====  
Copyright (c) 1996, Bill Jones - KD7S

#### Building High Performance, Small Loop Antennas

Soon after my article, A HOME-BREW LOOP TUNING CAPACITOR, appeared in the November, 1994, issue of QST I began receiving letters and telephone calls at the rate of ten to fifteen per day. Hams all over the world wanted more information on how to build small, efficient transmitting loop antennas. Over half the inquiries dealt with modifying the original three-foot diameter loop to tune other bands, especially 30 and 40 meters. Almost everybody wanted to know how to optimize the antenna for maximum performance on any given band. It soon became apparent that although interest in such antennas is at an all-time high, the mechanics behind designing and building small, high performance loops are not generally well understood.

For a small loop to perform well, losses must be reduced to an absolute minimum. To reduce losses, three conditions must be met. First, the loop must be properly assembled using highly conductive, low loss materials. It must also be physically large enough for the chosen frequency of operation. Finally, it should be installed as far away from other metallic objects as

possible. If any of these requirements are not met, performance will likely be disappointing.

If you're wondering why such emphasis is placed on reducing losses in a small loop, consider the following. When r.f. is fed to an antenna, part of the energy is radiated into space by virtue of the magnitude of its radiation resistance. Reduced size antennas (like small loops) typically exhibit very low values of radiation resistance. The rest of the energy is converted to heat. The part converted to heat is a result of ohmic losses and skin effect in the conductor used to make the antenna. It is wasted energy. Generally speaking, we don't have much control over the value of radiation resistance in an antenna of a given size. However, if steps are taken to reduce the ohmic losses to a fractional part of the radiation resistance, even a small antenna can be a very efficient radiator.

Reducing losses can be achieved by combining proper construction techniques with the right materials. Because copper is an excellent conductor at r.f., it is generally the material of choice for most home-brew loop builders. Aluminum can also be used, but because it's difficult to weld, it is usually reserved for the commercial manufacturers. Simply clamping sections of aluminum together with hose clamps is unacceptable.

Most loop builders use rigid copper water pipe for construction because it's fairly inexpensive and readily available. As you will see shortly, the thickness of the pipe used to construct an antenna plays an important role in loop performance. Half-inch material is about the smallest practical size from the standpoint of efficiency. Larger pipe works better with 1.5" diameter being about the upper practical limit based on cost and ease of handling. A good compromise is 3/4" or 1" pipe.

One problem with rigid copper pipe is that it is almost impossible to bend into a circular shape without special tools and equipment. The alternative is to cut eight, equal lengths of pipe and solder them together using 45 degree elbows to form an octagonal shape. If done properly, very little additional loss is introduced by the solder joints. On the other hand, a sloppy job of soldering can result in a loop that is all but useless. Each joint must be meticulously cleaned prior to soldering. Buffing the ends of the pipes and the insides of the elbows with fine steel wool is essential. If the copper is bright and clean, the solder will flow evenly and form a low loss joint. A high quality paste flux in conjunction with a hand-held propane torch will make the job easy. Don't attempt to solder copper pipe with a soldering gun or iron. Neither tool can deliver enough heat.

An alternative to rigid copper water pipe is flexible copper tubing. Many larger building supply stores and plumbing specialty shops carry fifty foot lengths of tubing in various sizes. Because it is soft, it can be formed into a continuous circle thereby eliminating the problems with soldering

individual pieces and elbows into an octagon. In addition, a round loop is slightly more efficient than an octagon. On the downside, a larger loop made from softer material may need some sort of internal framework to maintain its shape under windy or icy conditions.

Finding a suitable capacitor to tune a loop to resonance is probably the most challenging task facing a loop builder. Conventional air variable capacitors with wiping contacts and clamped-together plates are generally much too lossy to be useful. A high voltage vacuum variable capacitor is ideal. Unfortunately, vacuum variables can be hard to find. Worse, they're usually quite expensive if you do find one. As an alternative, a low cost, home brew capacitor can be made with simple hand tools. See my QST article mentioned earlier. Whatever you do, resist the temptation to use the first capacitor you find in your junk box. You'll probably be disappointed with the results.

The next thing to consider is how small a loop can be and still operate efficiently. It is generally accepted that the circumference of a small loop should lie somewhere between 1/8 and 1/3 wavelength at the desired operating frequency. Consider a loop designed to work at 7.0 MHZ. About the smallest circumference you should use is seventeen feet. If the antenna were made of 3/4" copper pipe, the efficiency would be around 35%. That means that almost two thirds of your transmitter power would be converted to heat and wasted. Increasing the tubing diameter to 1.5" would improve the efficiency to a little over 50%. On the other hand, if you were to increase the antenna circumference to thirty feet, the efficiency with 3/4" pipe jumps to almost 75%. With 1.5" pipe the efficiency is now slightly over 85%. If you think a thirty foot circumference loop is getting pretty big, consider that it is only about nine-and-one-half feet in diameter. Compare that to the sixty-seven foot span a full sized 40 meter dipole requires.

The accompanying table shows the relationship between loop circumference and calculated antenna efficiency for five different sizes of copper pipe. The figures are based on a loop for 7.0 MHZ. You can use this table to plan a 40 meter loop to suit your own needs.

Loop Circumference (ft)	Tubing Thickness in Inches				
	0.5"	0.75"	1"	1.25"	1.5"
17	26.61	35.23	42.04	47.55	52.10
20	37.12	46.95	54.15	59.61	63.92
23	47.31	57.39	64.23	69.18	72.93
26	56.47	66.05	72.18	76.43	79.56
29	64.29	72.97	78.26	81.82	84.38
32	70.75	78.39	82.87	85.81	87.89
36	77.50	83.87	87.32	89.58	91.17

39                    81.41        86.78        89.75        91.63        92.92

As an example, suppose you wanted to build a 40 meter antenna that exhibited at least 75% efficiency at 7.0 MHz. If you are using 1/2" copper pipe or tubing, it will need to be close to thirty-six feet in circumference. On the other hand, if you switch to 1" pipe, it need only be slightly over twenty-seven feet in circumference. Taking the example one step further, suppose you chose to use 1.5" pipe. Now the antenna only needs to have a circumference of twenty-four feet. A twenty-four foot loop is just over seven-and-one-half feet in diameter. From the table one can see that the conductor thickness has more effect on smaller sized loops than larger ones.

So far we have only considered single-band antennas. The twenty-four foot circumference loop made from 1.5" copper pipe just described can be retuned to work on 30 meters as well. Furthermore, the calculated efficiency is almost 92% at 10.150 MHZ. Unfortunately, a twenty-four foot loop is a little too large to work on the 20 meter band. If you reduced the circumference to twenty-one feet, the loop will work on 20 meters with a calculated efficiency of 96%. The efficiency on 30 meters would be 88% and drops to 67% at 7.0 MHZ.

The final consideration in getting maximum performance from a small loop deals with its surroundings. Loss will increase quickly when the antenna is installed close to other metallic objects. Items like chain link fences, other antennas, house wiring, automobiles, rain gutters and down spouts can seriously degrade the performance of an otherwise good antenna. Simply stated, loops should be placed in the clear for best performance.

If care is taken to build and install them correctly, small loops can be made to work as well as full-sized dipoles and verticals.

For additional information on small loop antennas, see Ted Hart's article, SMALL, HIGH EFFICIENCY LOOP ANTENNAS, in the June, 1986, issue of QST magazine.

=====  
Bill Jones - KD7S <><  
Sanger, California  
Reply to kd7s@psnw.com  
=====

From owner-qrp-l@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: "Dean Marzocca" <n2tnn@ifu.net>  
Subject: [6625] Kit choice  
Message-ID: <199612180326.WAA17859@mail.ifu.net>

Gang,

If you had a choice to build the following kits, which would you start with first??

NorCal 40A with KC-1 keyer  
EMTECH 8020  
OHR100 with keyer and DD-1 display

72/73, Dean, NJ, N2TNN, QRP-L # 560

From owner-qrp-l@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: Joel Malman <malman@BBN.COM>  
Subject: [6647] Last Night FOX(s)  
Message-ID: <199612181325.IAA56116@nss2.CC.Lehigh.EDU>

Basically: Heard nothing, worked same.

Well, actually, heard lots of static and a few stations speaking Spanish; but no Foxes or Hunters. Maybe next time.

/joel wa1qvm (concord, ma)

From owner-qrp-l@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: jerryh@webzone.net (Jerry Henshaw)  
Subject: [6687] LDG Tuner Inside Sierra -- Pictures  
Message-ID: <01BBED07.30436DE0@pm3.ppp64.webzone.net>

Hi Gang,

I sent a set of pictures of my auto tuner installation inside my Sierra =  
to Dwyane at LDG. He sent me some of them in jpeg format... which he =  
will post to his web page when he finds the time. I have sent a sent =  
to Jerry Parker to post on the NORCAL page -- he is swamped right now!! =  
Sooooo... if you have a jpeg viewer, and you would like to see the =  
installation, I will attach the images to an email (about 15KB each) =  
and send them to you.

Reply directly to my email address if you are interested.

72's

Jerry =20  
KR5L / QRP  
email : jerryh@webzone.net

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: jim hale <kj5tf@mctc.com>  
Subject: [6664] Lightweight Batteries and solar panels  
Message-ID: <32B845F5.5CAD@mctc.com>

A good low cost source for rechargeable AA nicads is the recent All  
Electronics catalog #596 1-800 826 5432  
Page 39, BTC-2 12v btry pack special \$10. with a 800ma wall charger...

BTW

On the facing page I see a 3.6v cordless fone btry (rechargeable) that  
fits between the AK-1 keyer board and the bottom of the Altoids tin. And  
room for the lid to close. :-)

On another subject of small solar panels.. Gateway Electronics has a good  
one I'm told... 1-800 669 5810 Its 700-750ma 12-14v for \$36. and you  
must build a suitable frame for it... American Science & Surplus has a  
real cheapo solar panel, 847-982-0870 #26325 "one sunny foot" is a  
one square foot 2w 19v glass pannel. cost \$20 !!! I have one of these,  
they work great.. You have to build a frame here too...

Good luck, de Jim AR QRP #2

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: "Dan Reynolds" <bcdlr@midwest.net>  
Subject: [6624] N/T Foxhunt Log 12/11 & 12/18  
Message-ID: <199612180321.VAA06289@cdale3.midwest.net>

Here's KB9JLO's log for:  
12/11/96

Time	Freq.	Call	State	Name	S/R	QRPL
1:04	7108.5	K5UP	OK	Glen	559/599	21
1:11	7108.5	KC5BU	OK	Leon	559/579	?PWR
1:48	7108	KB0ROL	CO	Brad	339/?	316
1:51	7108	K5ZTY	TX	Bill	559	473
2:10	7108	KK4KF	FL	Bill	559/229	755
2:20	7108	AA1MY	CT	Seab	559/579	574

2:30 7108 W7GVN      AZ    Rod 559 849  
 2:37 7108 KC1FB            CT    Jim 559/?      29 (?)  
 12/18/96  
 Time Freq.      Call      State      Name S/R    QRPL  
 1:37 7108.      K5ON      NM    Gary 559 770  
 1:43 7108.      WA7SSA    ID    Niel 559/449    119  
 2:03 7112.      KB0YBX    ND    Matt 559/339    ?  
 2:15 7112.      KJ7ZU            WA    Roy 559/?      ?  
 2:21 7112.      K5FO      TX    Chuck    559 1  
 Total 13 for both weeks

I could hear ("just") some others but couldn't complete. Last week was bad, this week was pathetic. The noise was incredible. There was an extremely loud, low buzzing, that would travel, up and down the band. When it would come by, it was very wide, it would be S9 +30! I'm sorry if I didn't get you this week or last. Just wasn't meant to be. Maybe it will be better next year! I am working on QSL cards. Will probably get them out next week when we're out for Christmas vacation, (fringe Benny for being a teacher).

Have a blessed Christmas all!

Dan Reynolds - Technology Coordinator  
 Lutheran School Association of Decatur, IL  
 ham radio: KB9JLO QRP-L #293 MI-QRP #M-1439 G-QRP #8766  
 web: <http://www.midwest.net/orgs/lsa/>  
 email: bcdlr@midwest.net or lsa@midwest.net

From owner-qrp-l@Lehigh.EDU Wed Dec 18 18:00:43 1996  
 From: "Wilford D. Lindsey" <70511.3041@CompuServe.COM>  
 Subject: [6634] N/T Foxhunt Log 12/11 & 12/18  
 Message-ID: <961218043359\_70511.3041\_IHD99-4@CompuServe.COM>

Dan:

Wonder how long you were up tonight? Went looking for you, starting about 30 minutes before you were sked to QRT as FOX. Nary a sign of you, beginning at 7104 and tuning slowly up.

Seemed like 40 was rough all over tonight. Heard the other Fox (W0CH) for about 45 minutes, then he slowly sank into the QRN. Could still hear guys calling him, but he was completely out of sight.

Oh well, tomorrow is another FOXhunt...

Many thanks for serving as the FOX. It is a work of love, and we all



benefit from the hard work guys like you perform. Hang in there, OM.

Happy Holidays, Dan!

72/73,

--Doc/K0EVZ QRP-L #861

From owner-qrp-l@Lehigh.EDU Wed Dec 18 18:00:43 1996

From: 18-Dec-1996 1455 <randolph@asic.ENABLE.com>

Subject: [6678] N100Q RX #2: 2nd IF choice, spurious responses

Message-ID: <9612181959.AA11983@us4rnc.pko.ENABLE.com>

No. 2

The basic receiver will be a superhet that tunes a small band at 32 MHz. We need to pick an IF freq, which will actually be the 2nd IF. The same criteria apply: we want the IF to be a good way away from the received band for decent image rejection and IF rejection. In this case, after the first conversion, it's all much less critical. The incoming signals have been filtered to a certain bandwidth by the band module pre-selector, converted to 32 MHz, and again filtered to a definite bandwidth, so we have only a relatively small chunk of spectrum around 32 MHz to deal with. Any signal that might cause an image or IF feedthrough response has been substantially attenuated.

32 MHz being up in the VHF, almost any lower HF freq will do for a 2nd IF for good image and IF rejection. Another problem, again originating in the nature of the mixer, is spurious signals. Mixers generate low-level harmonics of both input signals, and these cause low-level outputs on their sum and difference freqs. Any of these that happen to fall near our IF will be heard in the receiver as a spurious signal: one that doesn't really exist. Obviously, it would be in our best interest to pick a low HF range 2nd IF that causes a minimum of spurious outputs.

Unfortunately, there's no easy way to do this. Software exists to help with the process, but a lot of cut-and-try is required. The classic way is to form a table:

	RF	x1	x2	x3	x4	x5	x6	x7
		32	64	96	128	160	192	224
-----								
LO x1	20	52,12	84,44	116,76	. . .			
x2	40	72,8	104,24					
x3	60	92,28						

x4 80		.	
x5 100		.	
x6 120		.	
x7 140			268,12
x8 160			
x9 180			372,12

The table can be extended out to any arbitrary size, but after about the 9th harmonic the spurs start to get too weak to worry about. For the 12 MHz 2nd IF we'll need a 20 MHz LO. The mixer products above show us that a couple of spurs will be present:  $7 \times \text{LO} - 4 \times \text{RF}$ , and  $6 \times \text{RF} - 9 \times \text{LO}$ . These are both fairly high harmonics, so will be weak if audible. How weak? Looking at the tables in a catalog of commercial double-balanced mixers gives us numbers in the -60 to -75 dB range for these particular spurs - around 10 s-units below the real RF signal, at 6 dB per s-unit. This is a decent IF freq. Most others I tried had substantially more spurs. A double-balanced mixer is a mixer specifically designed to cancel the harmonics that cause these problems, which is why the spurious products are so small.

We can figure out what incoming RF freq will cause the spur. The spur will only be audible when that RF freq is within the passband of the receiver.

$7 \times \text{LO} - 4 \times \text{RF} = \text{IF}$	$6 \times \text{RF} - 9 \times \text{LO} = \text{IF}$
$140 - 4 \times \text{RF} = 12$	$6 \times \text{RF} - 180 = 12$
$4 \times \text{RF} = 140 - 12$	$6 \times \text{RF} = 12 + 180$
$\text{RF} = (140 - 12)/4$	$\text{RF} = (12 + 180)/6$
$= 32.0$	$= 32.0$

These will only be audible when the receiver is tuned within a KHz or two of 32.0 MHz, the bottom edge of the band, and there's a signal there. This probably isn't a big problem. The bottom edge of every band will get converted in its particular band module to 32.0 MHz, so the spur will always be at the bottom edge of the particular band: 3.50 MHz, 7.00 MHz, 14.00 MHz, etc.

There's one more thing to think about for this 2nd IF: we will be building crystal filters at this freq, and we'll need a BFO at this freq. The crystal filters will determine the bandwidth of the receiver: 500 Hz for CW, 2500 Hz for SSB. If we want to use commonly available microprocessor crystals, we want the IF to be on one of those freqs. We have a wide selection between 1 and 24 MHz. I tried a few different freqs before settling on 12 MHz.

We could get rid of one of the spurs by picking a slightly different IF. 12.288 MHz crystals are available. The other spur would move up into the band we want to listen to, though. Also, we lose our nice 20 MHz LO. As is, we can count the LO freq and ignore the first two digits to get our exact RF freq. With a 12.288 MHz IF and a 19.712 MHz LO, we can't. There are now programmable digital freq readouts for sale that can handle this, though.

These N100Q RX postings are intended to be a learning exercise for the QRP-L folks, so if you have questions or comments, post them! How's the level of detail? Too much or too little?

=====  
Tom Randolph N100Q NE-QRP 419 QRP-L 87 ARRL randolph@asic.enet.dec.com  
=====

From owner-qrp-l@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: Rick Zabrodski <zabrodsk@med.ucalgary.ca>  
Subject: [6626] Noise, no fox.  
Message-ID: <Pine.SUN.3.95.961217203721.6678D-100000@ume>

After Ve6gkj had his sked (first cw, then ssb) on 80m dad was allowed access to radio. NOISE. Put in ANC 4.....LESS NOISE.....acutally about S2. However, NO signals, nada, nothing, zip. Some weak 40 m BC stations only. Have the bands died or do I need to check my antenna?

Dr. Rick Zabrodski BSc, MD, CCFP(E) MRO \* VE6GK  
Clinical Assistant Professor \* NorCal 519 ARCI 7650 GQRP 8329  
Faculty of Medicine, Univ. of Calgary \* "Power is no substitute for skill"

From owner-qrp-l@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: SSLYON <SSLYON@worldnet.att.net>  
Subject: [6638] Noise, pileup, noise, pileup, noise ...59FOX!  
Message-ID: <19961218053254.AAA11011@LOCALNAME>

At 03:40 AM 12/18/96 +0000, you wrote:

>After Ve6gkj had his sked (first cw, then ssb) on 80m dad was allowed  
>access to radio. NOISE. Put in ANC 4.....LESS NOISE.....acutally about  
>S2. However, NO signals, nada, nothing, zip. Some weak 40 m BC stations  
>only. Have the bands died or do I need to check my antenna?

>

> \*\*\*\*\*

It was bad from here, too, Rick... couldn't even hear KB9JL0 tonite. Then, I heard the pile-up after Dave, W0CH, but he was so weak and QSB'd that I could only stand by helplessly and listen to them. Finally, I worked a few other QRP-ers, then, at 0458Z I gave one more look and HE WAS 5/9/9 !!! He gave me a 5/7/9 and I felt like I'd been holding my breath for 2 hrs and let go.

I found that as good as the 1400' loop is, I did have to go to the Half-Square (vert.) tonite to get results. Sure glad I had the alternative.

Didn't hear you on 160m ... but if you'd like to sched on any band, I'm up for it.

Best of the Season to you and yours. 72 =s=

"Seab" Lyon, AA1MY

Bethel, CT; FN-31-HJ;

ARCI#9253; QRP-L#574;

ARRL; QCWA; B.C.I.

From owner-qrp-l@Lehigh.EDU Wed Dec 18 18:00:43 1996

From: ed.welch@cheaha.com (ED WELCH)

Subject: [6658] Norcal 40a es 10-turn pot

Message-ID: <8CE61B8.0004000F22.uuout@cheaha.com>

-> I would heartily recommend the NC40A & KC1 combo. I built it as my  
-> first kit, and it is FANTASTIC !! Just put the 10 turn Pot in for the  
-> VFO this last weekend, and with a random wire in the BASEMENT, worked  
-> a station abt 300miles away. Great RX, and the 2 watts go a long way.  
-> I use mine on our trips to the lake. The instructions made building a  
-> real pleasure, and the support of Wilderness (and the net) make you a  
-> guaranteed success.

Howdy Charlie. I agree, the NC40A is a great kit! Put one together 3 months ago and had never really heated up a soldering iron previously. Kit went together great! I've have used it exclusively since.....TS450 is getting lonesome!<g> One question I have for you is about the 10-turn pot mod. A friend of my send me one with a vernier dial. It is a wire-lead hookup type rather than a pcb mount. The original pot helps to stabilize the pcboard in the case, this wire-lead pot won't help in this respect. Was the pot that you installed a pcb-mount or wire-lead type? If wire-lead, how'd you stabilize the pcb? If a pcb-mount, where ya get it? :) Tnx!

72/73

Ed Welch KF4KRV

QRP-L #873

Luverne, Alabama

Crenshaw County - Grid EM61

+-----+  
-----+ Norcal 40a es Straight Key es Wire-wrapped Trees +-----  
+-----+

> Isn't "time" a 4-letter word? <

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: nskousen@scientechn.com (Niel Skousen)  
Subject: [6682] Novice Fox - TONITE.  
Message-ID: <v02140b08aede1ba81ab6@[198.60.91.132]>

==== Novice/Tech+ Fox =====

WA7SSA Niel Skousen  
Wed. 12.18.96 7:00-9:00pm MST  
Thur 12.19.96 0200-0400 UTC  
FREQ 7.112 +/-  
RIG FT-757 @ 3.5w (may try NorCal 40 2nd hr... :-)  
ANT Inv.V @ 28 ft, legs E-W  
QTH Idaho Falls, ID  
QRP-L #119

\* Standard N/T code speed warning ...  
\* Patience is a virtue (especially for you 40wpm+ CW ops on N/T Fox nite..)

I'd like to try to break 20 Q's this time, so come on out !!  
Also a special invitation to those 4-5 newcomers who've asked about the  
Novice/Tech+ Fox, come try it, even at 2.5wpm, which was where I started  
the Fox season this year :-)

TNX es GL  
73  
Niel

-----  
Niel Skousen: Sr.Eng, SCIENTECH.SPG/CFG nskousen@scientechn.com  
208.525.3742, FAX 529.4721 Idaho Falls ID WA7SSA QRP-L.119  
-Z-----DN33wm--- . . . -

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: JFelts4572@aol.com  
Subject: [6675] OHR Kit Reviews  
Message-ID: <961218114302\_776803573@emout19.mail.aol.com>

Hi All,

Just wanted to thank all those who responded to my request for kit reviews on the OHR-400. I should get it Fri or Mon. I can't wait!!!

Jerry - NR5A --Box Elder,SD

From owner-qrp-l@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: JFelts4572@aol.com  
Subject: [6662] OHR Service - Happy Happy Joy Joy ! ! !  
Message-ID: <961218114024\_1754214510@emout14.mail.aol.com>

Yesterday I sent a check to OHR to order their OHR-400, I also sent an e-mail telling them to be on the look out for the check. This morning I got a e-mail from Dick saying if I wanted him to he would go ahead and ship the rig, without having the check in hand. I was really shocked that he would do that, now I should have the rig Fri or Mon before he has the check. Now is this service or is this service, they will bend over backwards to help us. I'm sold on OHR.

Jerry - NR5A -Box Elder,SD

From owner-qrp-l@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: Scott Rosenfeld NF3I <ham@w3eax.umd.edu>  
Subject: [6666] Portable solar panel source  
Message-ID: <Pine.3.89.9612181259.E23008-01000000@w3eax.umd.edu>

The guy's name is Pete DiFilippo, and he lives somewhere in NJ. He frequents the DC/Baltimore hamfests, and has shown up at Dayton the last few years - in a tan van.

Sells his stuff as "Solar Sales."

For many a hamfest, I lusted for this little 12v 650 mA solar "pack - two panels, a regulator (3/6/9/12v) and an assortment of plugs and cables, ALL in a folding, latching plastic case that's about 1" thick and maybe 16x12". All of this for \$60 or \$65, I can't remember (although I DID buy one).

Yes, it's more expensive than a typical "surplus" panel, but you don't need a frame or a case or a regulator. Pretty neat, I think.

\* Scott Rosenfeld NF3I Burtonsville, MD FM19mc QRV 80-10/6/2/440 \*  
\*\*\* 6m 75 grids worked on 8 watts \*\*\* HF 138 cfmd \* QRP-L #147 \*\*\*

\*\* QRP ARCI #9054 \*\* DXCC/WAS/WAC \*\*\* 100% dipole powered HF/6m \*\*  
\* 301-549-1022 h / 301-982-1015 w \*\*\* 145.490- 147.225+ PL 156.7 \*

From owner-qrp-l@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: Buck Switzer <n8cqa@tir.com>  
Subject: [6622] QRP-QRCI Publicity Chairperson  
Message-ID: <199612180215.VAA29155@tir.com>

QRP-L Gang - It is my pleasure to announce the appointment of Bruce Muscolino, W6TOY/3, to the post of Publicity Chairperson for QRP-ARCI! The appointment is effective 01/01/97. I'm sure Bruce will do a great job for us in this position. My thanks to him for volunteering.

72/73 Buck N8CQA  
Pres. QRP-ARCI

From owner-qrp-l@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: faunt@netcom.com (Doug Faunt N6TQS +1-510-655-8604)  
Subject: [6619] Radio Shack pocket multimeter, 22-179A  
Message-ID: <199612180108.RAA19153@netcom11.netcom.com>

Our local Radio Shack has this cute little unit on sale before Christmas, and while it's of a size and weight that makes it of interest for portable operation as it is, I also thought that it might be of interest as a generalized digital display. Obviously, it could display output power, and reflected power for setting up the antenna, but if any of the tiny microprocessor chips had an analog output, then you could maybe turn it into a frequency display. And that's not even considering opening it up and hacking away at it.

73, doug

From owner-qrp-l@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: JEVERHART@cayman.vf.mmc.com  
Subject: [6671] Re; Connector Survey  
Message-ID: <961218140410.2020f9dc@cayman.vf.mmc.com>

Dick and Cathy,

I have my own preference (prejudice) as far as qrp rig connectors are

concerned. Following the lead of the NorCal rigs from N6KR, I use BNCs for RF, 1/8 inch mono jacks for keying and 1/8 inch stereo jacks for headphones. The latter are connected to series-connect stereo headphone elements.

These connectors work out best for small portable rigs whcih happen to be my choices at the moment.

My cabling is set up for this configuration and I (grudgingly) use adaptors with rigs set up differently.

72/73,

Joe E., N2CX

From owner-qrp-l@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: km1h@juno.com  
Subject: [6689] RF connectors, etc  
Message-ID: <19961218.184448.7311.8.km1h@juno.com>

I really wonder what some of the fuss is about?

As a compromise, I would suggest that whomever supplies the kit simply use whatever is in their budget AND uses a standard 3/8" diameter hole in the sheet metal for the antenna connector. The end user can then use a Phono jack, BNC, TNC or type F fitting at his discretion. In real life one size does not fit all!...only in standards committees.

The TNC is becoming a favorite of the UHF-Microwave crowd for interconnects where loss is many magnitudes magnified compared to HF, and the SMA is either too expensive or unable to handle the RF power. The lowly F connector is a real sleeper. Cheap, available, flat to over 500MHz. And do you think the CATV industry would spend all those R&D dollars if it did not work great and was damn cheap too? Heck, they are even available in Gold Plate now! Altho developed for 75 Ohms and RG59 or RG6 cables they work very well with RG8X and a RS crimp tool. If you need a small, low loss coax feedline RG6 is the way to go anyway.

I'm at a loss to understand, or confused ( I hear that confusion is a process of growing old so bear with me please) how someone could claim the loss of a dB or so with any standard commercial connector. Maybe I'm missing something here. Rcvr sensitivity requirements do not change from QRP to QRO or crystal sets as far as a connector is required. No one wants to lose a full dB thru a connector in any application or service. A UHF connector at 2GHz doesn't even do that (USA Made Mil-Spec, not RS or other garbage)!



Just about any connector will suffer somewhat from lack of use and the wiping action previously described in another posting. The TNC is probably the least susceptible in the size category under discussion. Standard military PM schedules address the contact resistance issue and the Pentagon crowd have spent a few of your tax dollars in trying to build a better mouse trap.

Heck, I still like the phono connector...it worked fine for Collins and Drake plus others for many years. This loss issue IMHO is overblown if referenced to a QUALITY connector of any type. Any of the cheap import connectors, of any type, are a poor investment. I stress the word CHEAP Import; there are also quality imports.

An aside comment:

Again, IMHO, too many QRPers are too preoccupied with ultimate frugality and in the process degrading the true meaning of QRP and this facet of the hobby. There is plenty of room for all budgets but the ever increasing emphasis on cheap-cheap-cheap is making me ill.

73.....Carl KM1H QRPp thru QRO 1.8MHz to 10GHz

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: faunt@netcom.com (Doug Faunt N6TQS +1-510-655-8604)  
Subject: [6617] Straight key keyer  
Message-ID: <199612180058.QAA18188@netcom11.netcom.com>

I seem to remember once seeing a circuit for a "straight key keyer". Basically what it claimed to do was make dits and dahs the right length. If it was short it lengthened the element to the right length. A dah was anything too long to be a dit. If someone did this in a uprocessor, then it could make the spacing correct, also.

An interesting idea, since some of us might like the ruggedness of a straight key, but don't have the timing down, since a paddle with keyer covers up a multitude of sins.

73, doug

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: Jess Gypin <jessn0tfi@msn.com>  
Subject: [6652] Test  
Message-ID: <32B81078.3705@msn.com>

Test

Jess

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: KFGlynn@aol.com  
Subject: [6684] Tnx for info on HW-8  
Message-ID: <961218152529\_1720688360@emout18.mail.aol.com>

Hi gang,

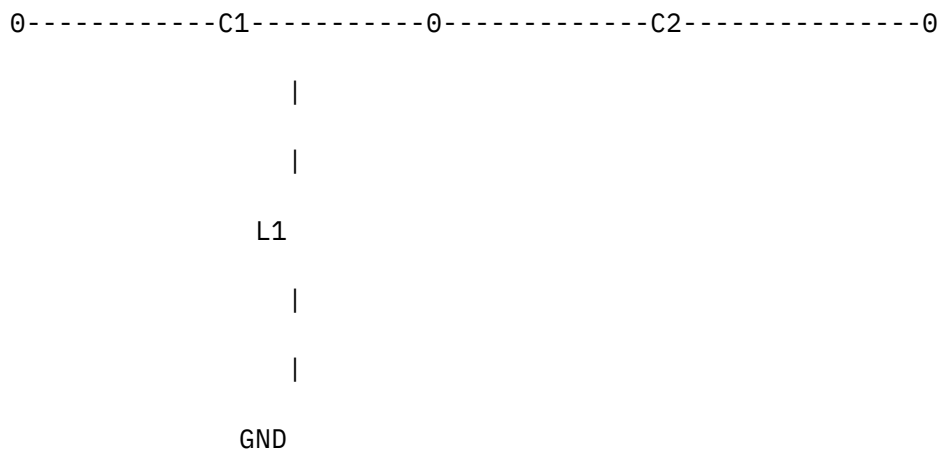
I wanted to thank everyone for the info on HW-8. This list is about the best resource around.

72 Kevin N2T0

From owner-qrp-l@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: "John Kirk, VE6XT" <jakirk@freenet.calgary.ab.ca>  
Subject: [6618] Tuner  
Message-ID: <Pine.A32.3.93.961217174837.43396A-1000000@srv1.freenet.calgary.ab.ca>

I have had a lot of requests for the coil data referred to in my previous post regarding the homebrewing of a reliable replacement for my MFJ tuner, so have decided to post it here for all.

The circuit is the classic T:



There is nothing magical about this configuration, but it does offer low parts count, matches a wide variety of impedances, and uses commonly available parts. It does have the disadvantage, though, of requiring some means of insulating both C1 & C2 from ground (stator and rotor both).

As B & W Minidux is getting pretty scarce these days, a coil had to be concocted that used commonly available materials, but still achieved reasonable Q. After a couple of unpleasant experiences with toroids, I settled on 34 turns of #14 insulated wire close wound on a section of 2 inch plastic pipe. I used Vacu-flow pipe (because I had lots), but I am sure PVC water pipe would work fine too. The wire can be stripped out of residential house wire "Lumex", or purchased as single conductor spools from many larger hardware stores. Tap every turn by carefully removing 1/4" or so of insulation with a razor knife. Tap the last 4 turns at the halfway point as well. If you stagger your cuts:

Even # turns = 10 deg \*before\* TDC

Odd # turns = 10 deg \*after\* TDC

you will greatly lessen the odds of an undesired short when connecting to the taps

(Study a piece of Minidux if this seems unclear)

Haywire the tuner together with a 'gator clip attached to the ground end of L1. Determine the taps that give you the best VSWR band by band. Take notes, as these will be the taps that get brought out to switch contacts. Mine turned out to be:

160: 30 & 29

80: 7 & 8

40: 4

30: 3

20: 2

17: 2

15: 1.5

12: 1.5

10: 1

(Your mileage may vary)

I do not recommend the use of a 'gator clip on a permanent basis. I've personally had them let go at the worst possible moment, causing wild mismatches to be presented to the rig. A good quality ceramic (accept no substitutes) 10 to 12 position switch will allow you to rest easier. Make sure when wiring the switch that you are \*shorting\* unused turns to ground, not leaving them open, otherwise you have just built an RF Tesla coil!

"Looks ugly, works great" seems to be the motto around my shack, so I left the tuner on the piece of pine board I started out with for prototyping. This has the added benefit of avoiding altogether the issue of how you are going to insulate the capacitors from a grounded metal case, but put BIG knobs on them so you don't RF cook your fingertips when groping for the tuner while watching your VSWR bridge. Apparently, there is a sound theoretical platform for my laziness too - a small, all-metal enclosure may appear to the coil as a shorted secondary winding, dramatically lowering the Q.

Embellishments: A bypass switch would be nice. Still haven't got around to installing one on mine, though it has been in continuous use for over 4 years now. A VSWR bridge would be nice (insert your favorite circuit [here]), but with used bridges showing up at flea markets for 5 bucks or less, you have to LOVE building to attempt to rationalize that project.

Have Fun!

John

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: adams@chuck.dallas.sgi.com (chuck adams)  
Subject: [6628] Two for One  
Message-ID: <199612180343.DAA28249@chuck.dallas.sgi.com>

One night, two foxii. One N/T+, told ya I got a rig up to

7.100+ and one G/A/E fox. Cold wx helps a lot. You guys are right. Antennas work better when it is cold.

dit dit :-)

SIG

Chuck Adams (K5FO CP-60) WAS 40m/30m/20m=49/49/50

EMPS QS0s=109 STATES(w/c)=34/2 DX=0

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996

From: Joe Gervais <vole@primenet.com>

Subject: [6654] Wonders of QRP

Message-ID: <199612181653.JAA27923@primenet.com>

Howdy Folks,

I was going through some QSL cards this morning (beats going to work... :-)) and ran across a QSL from Paul (AA4XX) for our QSO during the ARCI Fall party. He was running a whole 250mW, and we connected from AZ to NC on 40m.

Wow! Just amazing. Yeah I know, I've never been through a sunspot peak, but still... 1/4 watt. Thousands of miles. Magic.

I love this hobby!!!

Ho Ho Ho de KC7NEV,

-Joe, vole@primenet.com, AZ ScQRPions (Phoenix)

PS- Paul, let me know if my QSL hasn't hit your QTH yet!

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996

From: faunt@netcom.com (Doug Faunt N6TQS +1-510-655-8604)

Subject: [6616] \_Deep Sea Sparks\_

Message-ID: <199612180051.QAA17574@netcom11.netcom.com>

Was it this mailing list that had a request for information about a book called \_Deep Sea Sparks\_?

73, doug

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: Office <w2nra@netusa.net>  
Subject: [6668] Re: 5W RF, 150W Audio?  
Message-ID: <32B862FE.3E05@netusa.net>

Larry V East wrote:

>  
> >  
> >I have it plugged into my Sierra, and can now hear CW through my 150W stereo  
> >and Bose speakers -- not bad! I can now hear CW from 150ft away if I 'crank  
> >it up' :-))  
> >  
>  
> Holy cow, Bob! Hang an antenna on that thing and you can become a "lowfer"!

The speakers ARE the antenna on this very lowfer!

--

Art Searle, W2NRA [ex WU2K], ARRL Life Member, QRP-L #524  
QRP ARCI #9123, DXCC MX & CW HR, NRA Benefactor Life Member  
NRA Certified Firearms Instructor, Fight for your rights!  
Join the NRA now! NRA website <http://www.nra.org/>

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: Joe Gervais <vole@primenet.com>  
Subject: [6613] Re: Brag ALERT, This is not a test!  
Message-ID: <199612180008.RAA23905@primenet.com>

Howdy Ernie,

> I have just received a very nice QSL card from the ZL8RI DX-pedition.

Congrats!!!

> I can't wait to rib this card under the nose of a certain QRO guy  
> at my local club. He tried to bag this one and failed using 400 watts.  
> I bagged it with 1 watt, SSB, on 15 meters using cunning and stealth.

Hee hee hee... How I wish there would be a video camera  
there to catch his expression. :-)) I'm assuming this  
same person has told you that QRP can't work and is just  
a waste of time. Maybe I'm getting cruel in my young age,  
but I do wish I could be there!

> OH God!!, How I love ham radio and QRP.

Amen and pass the propagation software. :-)

Ho Ho Ho de KC7NEV,

-Joe, vole@primenet.com, AZ ScQRPions (Phoenix)

From owner-qrp-l@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: wk9t@juno.com  
Subject: [6679] Re: Chicago electronic places to visit  
Message-ID: <19961218.142922.22142.0.wk9t@juno.com>

Unfortunately the only two ham radio stores we had in the Chicago area (Ericksons & Ham Radio Toy Store) both closed their doors in the last 6 months. Imagine, a metropolitan area with over 8 million people and no ham radio stores!

-----  
73/72 de Rod ... WK9T Carol Stream(Chicago), IL  
Grid: EN-51ww QRP-L # 616 ARS # 153  
E-mail: wk9t@juno.com

On Wed, 18 Dec 1996 12:51:33 -0700 scicior@uswest.com (Steve Ciciora) writes:  
>While not strictly QRP related, I've seen similar posts with positive  
>results.  
>I'm going to be in Chicago over the Holiday season, and any  
>suggestions  
>on electronics/ham radio related places to visit? I know about  
>American  
>Science Center on Northwest Highway and Nagel, but that's it.  
>Thanks for your time and Happy Holidays,  
>Steven Ciciora KB0PJF  
>  
>

From owner-qrp-l@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: "Bernard F. Gaffney, Jr." <70272.2555@compuserve.com>  
Subject: [6688] Re: Chicago electronic places to visit  
Message-ID: <961218231452\_70272.2555\_JHD121-1@CompuServe.COM>

wk9t@juno.com writes:

>Unfortunately the only two ham radio stores we had in the Chicago area  
(Ericksons & Ham Radio Toy Store) >both closed their doors in the last 6 months.  
Imagine, a metropolitan area with over 8 million people and no  
>ham radio stores!

Imagine a whole STATE with at least 8 mega-people(probably more, haven't checked  
the last count) with only TWO ham stores(CommDac and MI Radio)!!! That's  
Michigan. At least we DO have OHR.

72/73 de N8PVZ

-----bernard gaffney

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: "L. B. Cebik" <cebik@utkux.utcc.utk.edu>  
Subject: [6645] Re: Connector Survey  
Message-ID: <Pine.SOL.3.94.961218070025.7175F-100000@utkux4.utcc.utk.edu>

Dick--and all

By default, I am now preferring small jacks for headphones, because all  
the headphones I have bought have small (stereo) plugs.

The RF connector is another matter. I am shifting over to BNC for size  
and because I believe them to be less lossy than the old UGs. I also have  
the impression that the quality of connection is less sure with the old  
UGs, especially if left in place quite a while without the cleaning action  
of unplugging and replugging.

But belief and impression are not enough. Has anyone made definitive  
measurements at QRP powers and receiving voltage levels of both to  
prove/disprove this? If not, is someone situated to do so.

In the end, I'd like Dick and us all to establish a QRP standard for  
connectors as a guide to all kit/equipment makers and home brewers, and  
the lowest loss connectors, commensurate with compactness, are the ones I  
want to be using in years to come. I'd hate to have nightmares about  
replacing my feedline to save a half dB in losses only to discover I was  
losing a full dB to an inadequate connector. 3 of those connectors could  
rob me of half my power and receiver sensitivity--and I might never know  
it.



About a year back, someone wrote up some measurements in 72, the NE QRP club newsletter. Do not know if they are definitive, but they are a start.

-73-

LB, W4RNL

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: JCoote@aol.com  
Subject: [6670] Re: Connector Survey  
Message-ID: <961218124222\_1522783093@emout05.mail.aol.com>

In a message dated 96-12-17 16:43:34 EST, ohrqrp@netonecom.net (OHR) writes:

>

>We would appreciate receiving some input from the group on the subject of  
>RF and audio connectors. Specifically, do you prefer BNC or SO-239 type RF  
>connectors? On connectors used for headphones, do you prefer 1/4" or the  
>smaller 3.5mm type? Please e-mail us direct at <qrp@ohr.com>.

Hi all,

My two cents worth on connectors:

BNC connectors are vastly more practical for QRP tabletop and portable gear. They are smaller, lighter and less time wasted on setup in the field. I prefer 3.5 mm (1/8") connectors for phones, again- smaller and lighter.

73, Jay

W6CJ

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: lhalliday@creo.bc.ca  
Subject: [6683] Re: Connector Survey  
Message-ID: <9611188509.AA850944292@mail2.creo.bc.ca>

My Menagerie of Strange Devices tends to the little stereo headphone jacks, because that's what size connector come on Walkman headphones. For power I use 2.1 mm barrel connectors. Same as my 2m handheld.

For RF use I'm weird: I like TNC connectors. They have the physical stability and RF performance of N connectors, but, being the same size as BNC connectors, are more convenient to be around. I also got an excellent deal on a box of them at a local surplus store. :-)

Laura Halliday VE7LDH  
lhalliday@creo.com  
ve7ldh@amsat.org  
Locator: CN89mg

"C'est une femme mutine, assez  
elegante, grave et legere, ayant le  
sens du confort et du plaisir  
en tout." - C. Deneuve

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: Bob Kellogg <ae4ic@nr.infi.net>  
Subject: [6685] Re: Connector Survey  
Message-ID: <199612182244.RAA29476@mh004.infi.net>

Gang,

Like LB, I decided about a year ago to standardize my shack on BNC connectors. The reasons were simple. (1.) They work well mechanically (2.) They are readily available and inexpensive. (3.0) They are small.

In practice, I've found that there are so many devices with the 239 standard that I'm always using an adapter of some kind. I've put BNCs on my WM-1 and all of the equipment I build. When I can, (for bench stuff), I put both. But I still have some cables with PL-239 on one end and BNC on the other.

But, If I could wave my magic wand and change everything at once, it would be to BNC. - even though I've not checked the losses from BNCs. I guess I could do that. - oh, rats, not another project! My gut tells me the difference is not significant. I'll go with that. (Ain't the scientific method wonderful!)

CUL,

Bob Kellogg, AE4IC, Greensboro, NC  
Prolably, but not nececelery. - Benny Hill

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: talljazz@teleport.com (Dan Presley)  
Subject: [6672] Re: FOX ALERT: Tuesday Night Fox  
Message-ID: <v0153051daedd5942ec34@[206.163.124.155]>

Not a peep out here in Oregon-I occasionally heard some guys calling you, but nada! Conditions improved about 0700 UTC (the usual routine here). Last

night I had Q5 qso w/Va. at 0730-Stay up late if you can.  
Dan N7CQR

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: adams@chuck.dallas.sgi.com (chuck adams)  
Subject: [6627] Re: Freq counter use with QRP Rigs  
Message-ID: <199612180335.DAA28189@chuck.dallas.sgi.com>

I'm sure someone else will comment on this too.

Read the manual for the frequency counter, please. Most have a table that says what ranges of freqs should not exceed a specified voltage input value. I remember the little handheld freq counters and the Heathkit all have maximum input voltages not to exceed.

FYI

SIG

Chuck Adams (K5FO CP-60) WAS 40m/30m/20m=49/49/50  
EMPS QSOs=109 STATES(w/c)=34/2 DX=0

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: kd1jv@juno.com (Steven Weber)  
Subject: [6656] Re: Freq counter use with QRP Rigs  
Message-ID: <19961218.121517.4863.1.KD1JV@juno.com>

Hi Dave,

As Chuck and maybe a few others have said, you just got to watch the max input voltage. These counters are usually pretty sensitive, so It may not take a direct connection to make it work. Put three jacks (BNC?) in a minibox. Use two as the transmitter "T", and the other to the counter. A short pick up wire from the counter jack near the wire connecting the the Transmitter "in" and "out" jacks will most likely be enough to get a reliable reading on the counter.

de KD1JV Steve in NH

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: "'AB7HI' Stephen Lee" <slee@u.washington.edu>

Subject: [6659] Re: Freq counter use with QRP Rigs

Message-ID: <Pine.A41.3.95b.961218084329.57364A-100000@homer07.u.washington.edu>

What I've done is to make up a short piece of modified coax which can be inserted between the rig and feed line. The modified coax has the jacket stripped off and the shield is separated from the inner insulated conductor. This way I then can make a wrap or two of ordinary wire around the inner insulated conductor. Take both ends of this conductor to the frequency counter, one end to ground and the other as the signal input. Works quite well. At QRP levels there's not enough power in the sensing wire to damage the input of the frequency counter.

Have also used this modified coax technique with an ICOM IC-701 rig that has a digital readout. Only requires the sensing wire to cross the modified coax...ie no wraps...and the ICOM picks it up fine business. WARNING: It may be possible to damage the input stage of some HF radios using this technique.

This is not a technique I employ in the everyday operations of the shack. I've only done this while aligning a newly brewed QRP rig.

I used to have a big old clunky frequency meter that I would plug a rubber ducky into. Key up the 2 meter HT and that freq meter would measure the frequency exactly. Now I've got a newer model that's smaller and lighter weight. S'posed to be good to 500 MHz but it can't measure the 2 meter HT for beans. So if you're searching the hamfests for a freq meter carry an extra rubber ducky with you. Connect it to the freq meter input and key up your HT. If it's good, it will read your HT's frequency.

Enjoy!

Stephen Lee, AB7HI, Tacoma, WA  
slee@u.washington.edu

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996

From: Monte Stark <ku7y@sage.dri.edu>

Subject: [6663] Re: Freq counter use with QRP Rigs

Message-ID: <Pine.SUN.3.90.961218092904.1141B-100000@vortex.sage.dri.edu>

Hi All,

I have used this method in shops and at home.....

Put a "tee" fitting in the feedline. On the cable that goes to the counter, remove the center pin.

Connect the end without a center pin into the "tee" fitting. In most cases this will pick up plenty of RF.

Where I need a bit more, I have inserted a piece of insulated hookup wire into the female center connector of the "tee" and had that run to the counter.

There is a "tap" fitting made that will vary the amount of coupling you get, but they are not cheap!!

73, Ron,

```
.....KU7Y.....ARCI #8829.....Monte "Ron" Stark.....
....ku7y@sage.dri.edu.....Washoe Lake, Nevada.....
....QRP-L #17...ARS #49...NorCal #330.....NRA LIFE.....
```

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: "'AB7HI' Stephen Lee" <slee@u.washington.edu>  
Subject: [6669] Re: Freq counter use with QRP Rigs  
Message-ID: <Pine.A41.3.95b.961218095114.57364C-100000@homer07.u.washington.edu>

I apologize for any confusion that resulted from the post I just made. In my excitement to share a hint I kinked the explanation. Please forgive. Stephen Lee, AB7HI, Tacoma, WA

On Wed, 18 Dec 1996, 'AB7HI' Stephen Lee wrote:

```
> What I've done is to make up a short piece of modified coax
> which can be inserted between the rig and feed line. The
> modified coax has the jacket stripped off and the shield
> is separated from the inner insulated conductor. This way
> I then can make a wrap or two of ordinary wire around the
> inner insulated conductor. Take both ends of this conductor
                                ^^^^^^^
delete "conductor" marked by ^^^^ & insert      ordinary wire

> to the frequency counter, one end to ground and the other as
> the signal input. Works quite well. At QRP levels there's
> not enough power in the sensing wire to damage the input of
> the frequency counter.
```

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: Bruce Robertson <brucerob@chass.utoronto.ca>  
Subject: [6648] Re: FS: forty-9er kit  
Message-ID: <Pine.SGI.3.95.961218084235.2209E-1000000@chass.utoronto.ca>

The forty-9er has been sold.

Please note, there was a \*big\* demand for this kit. If you are sitting on an unbuilt one and can't think of when you might build it, might I recommend that you make some fellow list member happy by offering it for sale?

72, VE3UWL

Bruce G. Robertson Dept. of Classics, U. of T.

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: Mike Czuhajewski <wa8mcq@u1.abs.net>  
Subject: [6629] Re HW-8 power  
Message-ID: <Pine.BSI.3.93.961217223047.24134F-1000000@u1.abs.net>

In the daily digest a few days ago, someone asked about typical HW-8 output power, and someone replied that it's from one to two watts, depending on band. That pretty much agrees with what I've seen over the years, having checked out over two dozen since the late 80's. (Living in a major metro area with a huge ham population has its advantages! They call me the HW-8 Doctor around here.) However, you may see less than that if the rig needs tuning up, and sometimes even that won't cure low power. It's time to resurrect this one again, for the benefit of those who haven't heard it before.

The HW-8 uses ferrite toroids in the output networks for 80 and 40 meters and those ferrites can--and sometimes DO--go bad, causing a loss of output power. Details are in a collection of articles I put on the ftp server at lehigh.edu; look under the articles subdirectory (or was it mods?), and the file name is something like hw8core. Ferrites can go bad, suffering a permanent shift in permeability, resulting in a change in inductance, throwing off the tuning range of the output network. You could remove some turns from the offending core(s) to reduce the inductance back to the normal value (every time I've seen this problem, it's an increase), but the core itself is still bad, with high losses--the best bet is to just replace the offending cores with fresh ones of the proper type. I stopped

counting when I hit ten confirmed cases of this!

This bad-core problem only occurs on 80 and 40, where they used ferrites; the two higher bands use powdered irons, and they do not suffer from this malady. (Technically, powdered irons can also exhibit the same effect, but it's much, much less pronounced; my article contains the results of some experiments I did with both ferrites and powdered irons. I have NEVER seen an HW-8 with bad powdered irons in the output networks on 20 or 15. You only have to worry about 80 and 40; typical symptom is grossly reduced power, usually well under a half watt or so.)

By the way, after I initially posted this a few years ago, there followed a long thread about resurrecting ferrites, or whether it was possible to do so. Many people claimed that they had done it, by various methods, at work, but I have never done so myself--and I never tried applying any of their methods to the bad cores from an HW-8. I always felt safer just replacing the bad ones with known good, fresh cores. (I think it was type 64 or 67; my article contains the correct number.)

73 and Queue Our Pea DE WA8MCQ

wa8mcq@abs.net

From owner-qrp-l@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: Charlie Rubenstein <rubenc@iglou.com>  
Subject: [6632] Re: Kit choice  
Message-ID: <32B779FD.12FE@iglou.com>

Dean Marzocca wrote:

>  
> Gang,  
>  
> If you had a choice to build the following kits, which  
> would you start with first??  
>  
> NorCal 40A with KC-1 keyer  
> EMTECH 8020  
> OHR100 with keyer and DD-1 display  
>  
> 72/73, Dean, NJ, N2TNN, QRP-L # 560

Hi Dean,

I would heartily recommend the NC40A & KC1 combo. I built it as my first kit, and it is FANTASTIC !! Just put the 10 turn Pot in for the VFO this last weekend, and with a random wire in the BASEMENT,

worked a station abt 300miles away. Great RX, and the 2 watts go a long way. I use mine on our trips to the lake. The instructions made building a real pleasure, and the support of Wilderness (and the net) make you a guaranteed success.

72 es happy building

(Now....if I can just scrape together enuff for a Sierra.....)

Charlie

From owner-qrp-l@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: Art Searle <w2nra@netusa.net>  
Subject: [6644] Re: Kit choice  
Message-ID: <32B7C863.AE2@netusa.net>

Dean Marzocca wrote:

> . . . first??  
> NorCal 40A with KC-1 keyer  
> EMTECH 8020  
> OHR100 with keyer and DD-1 display

If you're talking idiot proof first ever kit, I'd recommend the NorCal 40A. This kit was easy and it works great. It gave me the confidence to tackle the Sierra which I have on order.

72, de Art

--

Art Searle, W2NRA [ex WU2K], ARRL Life Member, QRP-L #524  
QRP ARCI #9123, DXCC MX & CW HR, NRA Benefactor Life Member  
NRA Certified Firearms Instructor, Fight for your rights!  
Join the NRA now! <http://www.nra.org/membership/membrapp.html>

From owner-qrp-l@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: "'AB7HI' Stephen Lee" <slee@u.washington.edu>  
Subject: [6665] Re: Kit choice  
Message-ID: <Pine.A41.3.95b.961218093259.57364B-100000@homer07.u.washington.edu>

I would say a great deal depends on the type of antenna you plan to use. My first QRP kit was the original NorCal40. My first antenna was a G5RV, flat topped at 25 feet, L-shape configuration. I could get out maybe 25 miles with this setup. I acquired a Butternut vertical and planted it in a ground



mount configuration. Using the Norcal40 I reached NakNek, AK, New York City, Texas, New Mexico, Arizona, California...etc. The EMTECH 40 meter rig that I have with its 5 watts of power can get out quite nicely on the G5RV. My G5RV, the way it's set up, requires about 5 watts of power to be an effective radiator. 73 es CUL.

Stephen Lee, AB7HI, Tacoma, WA  
slee@u.washington.edu

On Tue, 17 Dec 1996, Dean Marzocca wrote:

> Gang,  
> If you had a choice to build the following kits, which  
> would you start with first??  
> NorCal 40A with KC-1 keyer  
> EMTECH 8020  
> OHR100 with keyer and DD-1 display  
> 72/73, Dean, NJ, N2TNN, QRP-L # 560

From owner-qrp-l@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: "James C. Owen, III" <owen@apollo.eeel.nist.gov>  
Subject: [6673] Re: Kit choice  
Message-ID: <55781.owen@apollo.eeel.nist.gov>

In message Wed, 18 Dec 1996 09:46:18 -0800 (PST),  
"AB7HI" Stephen Lee" <slee@u.washington.edu> writes:

> I would say a great deal depends on the type of antenna.

I think Stephen misspoke here. The choice of kit rig has NOTHING to do with the type of antenna you are going to use. If two different rigs of 50 ohm output impedance are connected to the same antenna that has a 50 ohm impedance and both rigs have the same output power then the signal strength at the other end will be the same. It is possible for two different rigs to put out different output power into the same antenna if the antenna is mismatched. This however is the antenna's (actually the operator's) fault. The antenna should be matched closely to 50 ohms at the operating frequency. Try to keep the SWR under 1.5:1 and you will be ok. BTW it's hard to beat the simple single-band resonate dipole for operating efficiency. You can go to Yagi's or wire beams and get gain in a given direction or you can go to a vertical and get a low angle of radiation and you can even use a trap dipole to get multiple bands with one antenna but the single-band dipole will still USUALLY be the most efficient. BTW I have the OHR Explorer II and it's a

great rig for the cost. It was easy to build and worked the first time. It even has smoother operating than my Ten-Tec Corsair II. I'm sure that the NorCal 40A and the others are just as good but I have had no experience with them. I suggest going to the Archives and downloading the reviews on the different rigs and then make your choice. However, I don't think you will go wrong with any of them. 72/73 Jim K4CGY qrp-1 #72

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: JEVERHART@cayman.vf.mmc.com  
Subject: [6676] Re: Kit choice  
Message-ID: <961218144815.2020f9dc@cayman.vf.mmc.com>

Dean,

Your rig candidates are all good ones! I'm kinda partial to the NC-40A, though mine doesn't have a KC-1 installed. In fact at the QRP To The Field effort, I'm not sure if you noticed, but the NC-40A was my backup rig. I nearly went to it when the Argo 509 acted up. This is an excellent rig, both small and good-performing.

On the other hand, I'd like to mention another candidate - the WM-40 by NN1G. It has a design similar to the NC-40A and is available with a ready-made case. With a little effort, you could add a KC-1 to it. Not sure if you noticed, but I've brought a predecessor to the WM-XX rigs a 30-40 to several of the NJQRP get-togethers. When I bought mine, you had to supply the case your self. NN1G now offers a complete kit with everything you need. Besides he's on *\*this\** coast!

72/73,

Joe E., N2CX

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: "'AB7HI' Stephen Lee" <slee@u.washington.edu>  
Subject: [6690] Re: Kit choice & antenna  
Message-ID: <Pine.A41.3.95b.961218145457.25614C-100000@homer33.u.washington.edu>

Well Jim, I agree with you that a resonant dipole is an efficient radiator. That's why I chose the G5RV as my first antenna. It's still up, but at 25ft it isn't up high enough to be a GOOD radiator on 40 meters with ONLY 2.0 to 2.5 watts input. That's all the power either of my 2 NorCal40's produce. I was hearing signals fine business...just not getting out.

The OHR Explorer that I built for 30 meters doesn't do well on it either. It too produces almost 2.5 watts maximum power. Notwithstanding that the G5RV isn't recommended for 30 meter use, but a member of our NW-QRP Club does this with good results. I wonder what his antenna height is?

The EMTECH 40 produces a maximum of 5 watts. At 5 watts of power, my G5RV radiates nicely using either the EMTECH 40 or my QRP+. With the QRP+ at 5 watts it works pretty good on nearly all bands. Oh, and I am using a tuner with the G5RV, an MFJ 949E but don't need it near a specific frequency on 80 meters (about 3.62MHz). So, in retrospect, I would have experienced fewer frustrations had I: a) acquired the EMTECH 40 as my first QRP rig, or  
b) acquired the Butternut vertical as my first antenna.

Once I put up the Butternut, the radio propagation was outstanding and that little NorCal40 just shined! Then I built the OHR Explorer 30 and had a ball working Japan with it. So I would say my tuning ability was not a factor. Once I acquired the QRP+ and EMTECH 40 then I began having QRP success with my G5RV but not to the extent that I experienced with the Butternut vertical.

I would summarize all this by pointing out there are few among us who desire to build just one QRP rig. So choose your first rig based on what appeals to you, enjoy the experience, then plan for the next one. What I learned in my experience is this: A Butternut vertical outperforms a compromise dipole at QRP power levels.

Enjoy!

Stephen Lee, AB7HI, Tacoma, WA  
slee@u.washington.edu

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: faunt@netcom.com (Doug Faunt N6TQS +1-510-655-8604)  
Subject: [6623] Re: lightweight batteries for QRPp backpacking  
Message-ID: <199612180316.TAA11166@netcom10.netcom.com>

The QEX article was in the April '96 issue. They ended up soldering to the Rayovac cells in order to get a good connection.  
73, doug

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: Bill Myers <bmyers@destin.nfds.net>  
Subject: [6637] Re: N/T Foxhunt Log 12/11 & 12/18  
Message-ID: <1.5.4.16.19961217232112.1a3fc2cc@destin.nfds.net>

At 09:19 PM 12/17/96 -0600, Dan Reynolds wrote:

>Here's KB9JL0's log for:

>12/11/96

>Time	Freq.	Call	State	Name S/R	QRPL
>2:10	7108	KK4KF	FL	Bill 559/229	755

Yep, that's me. Thanks again, no points for me but still fun!

>12/18/96

>Time	Freq.	Call	State	Name S/R	QRPL
-------	-------	------	-------	----------	------

Sorry my name isn't on this one. I had hoped to be back from New Orleans in time, but the traffic there was REALLY BAD! Someday I'll have to convince my wife to let me put a hamstick in the trailer hitch hole on the Escort...

But, I got the other one tonight so it wasn't a total bust...

I'll be looking or you next year and hope to work you every time you're on.

Happy Holidays

--

Bill Myers      KK4KF      Grid - EM60rk  
FISTS#2390    QRP-L#755    ARCI#9282    scQRP#42    CQC#386  
Snail Mail    P. O. Box 178    Shalimar, FL 32579  
e-mail        <bmyers@destin.nfds.net>  
homepage <http://destin.nfds.net/~bmyers/>  
              (Reptiles/Emergency Services/Amateur Radio)  
CHECK OUT THE FISTS INTERNATIONAL CW CLUB U. S. HOMEPAGE  
<http://n9nvv.qrp.com/~fists>    (That's N 9 N V V)

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: George Dobbs <G3RJV@gqrp.demon.co.uk>  
Subject: [6614] Re: QRP14 - A compact 3-Band QRP-Transceiver (long) (fwd)  
Message-ID: <zVY\$kMAHHgtyEw\$q@gqrp.demon.co.uk>

I can echo Jims remarks  
This is a fine piece of work.

I will be showing photographs and description in my next RadCom QRP Column and will bring the splendid handbook to Dayton.

72/3

George Dobbs G3RJV	"It is vain to do with more
The G QRP Club	what can be done with less"
g3rjv@gqrp.demon.co.uk	William of Occum (1290-1350)

St.Aidan's Vicarage, 498 Manchester Road, Rochdale, OL11 3HE. U.K.

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: Dan Keen <70731.722@CompuServe.COM>  
Subject: [6630] Re: Small Loop Antenna Efficiency  
Message-ID: <961218034534\_70731.722\_EHM80-1@CompuServe.COM>

> I also have an MFJ loop and it works equally well. I got this one used,  
> which made it worth the reduced price. I think they are quite expensive if  
> purchased new. Probably not worth the price differential since they are so  
> easy to make. The tuning box on the MFJ is the real benefit of having this  
> version.

Also brand new for '97, there is a choice of two models of the full size MFJ loop: 10-30 meters, or 17-40 meters (doesn't have 15, 12, 10).

Dan  
70731.722@compuserve.com

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: kd1jv@juno.com (Steven Weber)  
Subject: [6657] Re: Straight key keyer  
Message-ID: <19961218.121517.4863.2.KD1JV@juno.com>

>I seem to remember once seeing a circuit for a "straight key keyer".

Hi Doug,

I tried to make one of these once. Used a uP, and as you said, I would set a code speed, then it was supposed to ensure the elements, dits and dahs and the spacing were the correct length. It sort of worked, but was

more confusing to use than usefull, so I gave up on it pretty quick. In the end I found out why there are no straight key keyers. It just doesn't seem to work very well...I ended up just making a Morse decoder, and displaying the characters on an LCD. This way, if you aren't keying in a manor which the uP can reconize, you know your keying isn't very good...The auto letter and word spacing on the decoder helps make sure you don't run your elements togther, which is most peoples problem. If the uP can't find the space between letters and words, chances are good nobody else can either!

Maybe someday I'll offer my little keyer with LCD display and straight key input for decoding as a kit....

de KD1JV, Steve in NH

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: WJ4PRandy@aol.com  
Subject: [6674] Re: Straight key keyer  
Message-ID: <961218132737\_975698098@emout06.mail.aol.com>

The CodeBoy keyer from Radio Adventures Corporation has an input for a straight key to "correct" sloppy sending. I think the "line" of keyers from them has this feature and since it is based on a very small PIC processor and lives forever on a watch battery it could be incorporated in/on a straight key without too much trouble. They are on the web. Phone # 814 437 5355.

Just a satisfied customer...

73, Randy WJ4P

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: Jim Hydzik <congress@magpage.com>  
Subject: [6643] Re:Tuners for Multi-op  
Message-ID: <199612180604.BAA18408@alaska.magpage.com>

Hi Paul,

>ohms). The only advantage is that it can be built with smaller, cheaper  
>components. 72, Paul

With my son and I operating together from the same shack it seems to reduce overload and keep RF out of each others SWR meters when we use a 'T' tuner (Murch 2KW) on the higher frequency and a PI-type tuner on the lower band. It's the only reason we use the T. (some antennas cross only 5 feet apart) Get that highpass-lowpass action working in our favor.

CUL, Jim K3QIO Delaware

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: "L. B. Cebik" <cebik@utkux.utcc.utk.edu>  
Subject: [6646] Re: Tuners: PIs  
Message-ID: <Pine.SOL.3.94.961218071022.7175G-100000@utkux4.utcc.utk.edu>

Amen to the PI as an excellent tuner. For QRO, the tuners used to be reversed tube output circuits, which is not really right for antenna use, where there are wide variations in reactance and resistance to be matched. And the voltage on the components also put people off.

But at QRP, there is no reason not to use a PI if we use high quality components. If you use that junk box variable capacitor, please be sure it is electrically clean. A continuously variable coil is desirable, since even a PI has inefficient settings. If you must tap and switch, use as many taps as possible. If afraid of suckout, make tuners for low HF and for upper HF to optimize components. Ain't no rule that says an ATU gotta be for all bands or nothing.

An L-C-L Tee with coil Q of at least 100 is also good and a low pass filter. Not nearly the loss some folks might assume from seeing 2 coils.

I suspect that the following are the chief causes of network tuner losses:

1. Low Q components (including old dirty ones, but including as well some cheap ones or badly designed ones);
2. Strays, due to overcramping of components inside metal (especially bad at upper HF with many commercial designs);
3. Bad choice of settings, sometimes forced on us by where the maker chooses to tap the coil(s) or by switched capacitors rather than continuously variable ones.
4. Inadequate range of the antenna-side component, since it does the main work of compensating for the reactance presented by the feedline--it can force some bad settings of the other components.
5. Insufficiently low minimum value of variable capacitors--some in use have as much as 40 pF minimums, when 5-10 pF ought to be common.

Just some things to think about with tuners. If you are going to design a

PI, design a darn good one--or you won't get the performance that Cecil and Paul have been talking about.

-73-

LB, W4RNL

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: Jeff Grudin <grudin@pacific.vdbs.com>  
Subject: [6653] Re: Tuners: PIs  
Message-ID: <32B82345.6566@pacific.vdbs.com>

LB

> 3. Bad choice of settings

I was wondering, I keep seeing this come up. On my Commercial tuner (MFJ 971) I minimize the caps and tune the coil to get the loudest receive volume, then tune the caps alternately for minimum SWR (Max out and Min reflected). I always have the feeling that other settings might work too.

How do I know if I have the right choice of settings?

--

73 de Jeff AC6KW  
grudin@vdbs.com

-----QRP-L

#16 Private Practice : Companion Animals and Exotics  
Norcal QRP #1292 Ocean Animal Clinic / Cat Clinic of Santa Cruz  
Santa Cruz, California

QRP'ers do it with less energy (but lot's of enthusiasm)!

-----  
From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: Glen Leinweber <leinwebe@mcmail.CIS.McMaster.CA>  
Subject: [6655] Re: Tuners: PIs  
Message-ID: <1996Dec18.115707-0500@[130.113.234.7]>

In <32B82345.6566@pacific.vdbs.com>, Jeff Grudin wrote:

>I was wondering, I keep seeing this come up. On my Commercial tuner (MFJ  
>971) I minimize the caps and tune the coil to get the loudest receive volume  
>, then tune the caps alternately for minimum SWR (Max out and Min reflected).



> I always have the feeling that other settings might work too.

>

>How do I know if I have the right choice of settings?

Jeff,

Good question. And you're right, there's usually LOTS of settings that'll give you a match. I'd suggest that you try to use a setting that results in low tuner loaded Q. This will result in minimum tuner losses.

However, if you're relying on the tuner to eliminate spurious signals, like a nearby AM transmitter, a higher Q setting might be more desirable, even if losses result in less RF out. (If you can't hear 'em, you can't work 'em).

OK, so the question remains, how to set the tuner for minimum losses, or lowest Q. I'd say the lowest Q setting is where the "PI" tuner configuration reverts to the "L" configuration: you'll find that one of the variable caps is nearly unmeshed. Can't say if its the input cap, or the output cap (depends on whether antenna Z is higher or lower than 50 ohms).

So try it this way:

If you know that antenna Z is higher than 50 ohms:

Unmesh the variable cap on the INPUT side of the PI. Then tune the L and the output (antenna) variable cap for lowest SWR. Add input capacitance reluctantly (to trim to lowest SWR) afterwards.

If you know that antenna Z is lower than 50 ohms:

Unmesh the variable cap on the OUTPUT side of the PI. Then tune the L and the input (rig) variable cap for lowest SWR. Add output capacitance reluctantly (to trim to lowest SWR) afterwards.

Setting a tuner "properly" borders on religion and politics in flaming power, so expect this thread to be added to Paul's "hot-topic" list.

Glen VE3DNL    leinwebe@mcmail.mcmaster.ca

From owner-qrp-l@Lehigh.EDU Wed Dec 18 18:00:43 1996

From: "paul f. young" <pfy@axe.intercall.com>

Subject: [6680] Re: Tuners: PIs

Message-ID: <32B855AB.5D88@mail.intercall.com>

Glen Leinweber wrote:

>

> In <32B82345.6566@pacific.vdbs.com>, Jeff Grudin wrote:

>

> >I was wondering, I keep seeing this come up. On my Commercial tuner (MFJ

> >971) I minimize the caps and tune the coil to get the loudest receive volume

> >, then tune the caps alternately for minimum SWR (Max out and Min reflected).  
> > I always have the feeling that other settings might work too.  
> >  
> >How do I know if I have the right choice of settings?  
>  
> Jeff,  
>       Good question. And you're right, there's usually LOTS of settings  
> that'll give you a match. I'd suggest that you try to use a setting  
> that results in low tuner loaded Q. This will result in minimum tuner  
> losses.  
>       However, if you're relying on the tuner to eliminate spurious  
> signals, like a nearby AM transmitter, a higher Q setting might be more  
> desirable, even if losses result in less RF out. (If you can't hear 'em,  
> you can't work 'em).  
>       OK, so the question remains, how to set the tuner for minimum  
> losses, or lowest Q. I'd say the lowest Q setting is where the "PI"  
> tuner configuration reverts to the "L" configuration: you'll find that  
> one of the variable caps is nearly unmeshed. Can't say if its the input  
> cap, or the output cap (depends on whether antenna Z is higher or lower  
> than 50 ohms).  
> So try it this way:  
>  
> If you know that antenna Z is higher than 50 ohms:  
> Unmesh the variable cap on the INPUT side of the PI. Then tune the L  
> and the output (antenna) variable cap for lowest SWR. Add input  
> capacitance reluctantly (to trim to lowest SWR) afterwards.  
>  
> If you know that antenna Z is lower than 50 ohms:  
> Unmesh the variable cap on the OUTPUT side of the PI. Then tune the L  
> and the input (rig) variable cap for lowest SWR. Add output capacitance  
> reluctantly (to trim to lowest SWR) afterwards.  
>  
> Setting a tuner "properly" borders on religion and politics in flaming  
> power, so expect this thread to be added to Paul's "hot-topic" list.  
> Glen VE3DNL       leinwebe@mcmail.mcmaster.ca

Glen,

Could you explain that in a simpler terms about the meshing and  
unmeshing of the variable capacitors in the PI network ATU.

--

Paul F.Young KC2AHB  
pfy@mail.intercall.com ,76716.722@compuserve.com  
Ramapo Mt. A.R.C, S.A.R.A. (N.J.)  
AKQRP #042 QRP-L #881

From owner-qrp-1@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: Glen Leinweber <leinwebe@mcmail.CIS.McMaster.CA>  
Subject: [6686] Re: Tuners: PIs  
Message-ID: <1996Dec18.175433-0500@[130.113.234.7]>

In <32B855AB.5D88@mail.intercall.com>, paul f. young wrote:

>  
> Could you explain that in a simpler terms about the meshing and  
> unmeshing of the variable capacitors in the PI network ATU.  
>--

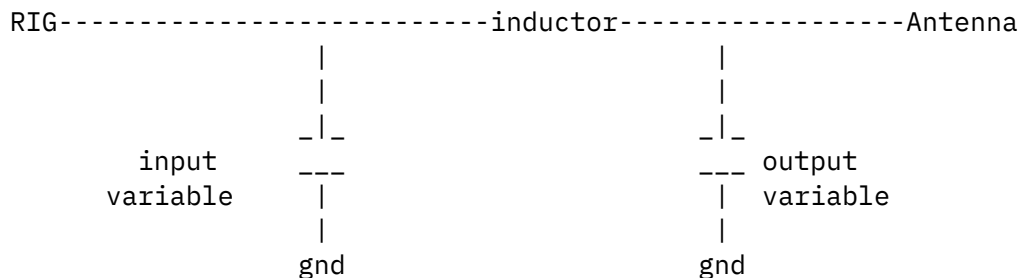
Paul,

A "fully meshed" variable cap would have maximum capacitance, with the (grounded) moveable plates all hidden in-between the fixed plates.

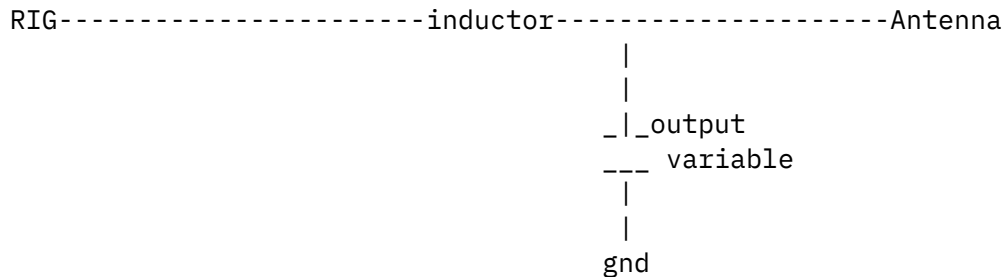
An "unmeshed" variable cap has minimum capacitance, with all the moveable plates up in the air.

Perhaps a schematic diagram would be better (turn off proportionally spaced fonts to see this properly):

A PI network tuner:

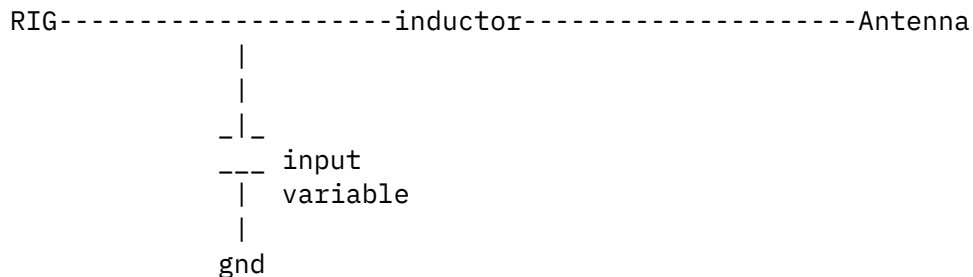


If your antenna is HIGHER Z than 50 ohms, then the lowest Q tuning reverts to an L network, where the input variable cap tends toward minimum capacitance:



So why use a PI network, rather than the simpler L network?  
Because the PI lets you match to a LOWER Z load as well as a

HIGHER Z load. The L network that matches to an antenna impedance LOWER than 50 ohms looks like this:



So you can adjust the PI to simulate either L network. Its more versatile.

Glen VE3DNL leinwebe@mcmail.mcmaster.ca

From owner-qrp-l@Lehigh.EDU Wed Dec 18 18:00:43 1996  
From: faunt@netcom.com (Doug Faunt N6TQS +1-510-655-8604)  
Subject: [6615] Re: [6597] Re: lightweight batteries for QRPP backpacking  
Message-ID: <199612180050.QAA17503@netcom11.netcom.com>

The most bang per gram for reasonably priced batteries is the AA lithium cells, available from Radio Shack and other places where you buy Energizer batteries, such as your local discount store. If you use a holder for them, then you can easily replace them with batteries available almost anywhere.

Keep in mind though, that when the ARRL tested the Rayovac Renewals, they discovered that they were losing a significant amount of power in the cheap plastic battery holder they were using. This was written up in QEX a couple or so issues back. This is an effect of the holder, not the cells, so a better quality holder would allow you to get more energy from the cell.

I have no idea what would happen if you tried soldering to the ends of one of the lithium cells.

73, doug